

REMARKS

Claims 1-78 are pending. Applicants respectfully request reconsideration of the present Office Action based on the remarks set forth below.

Interview Summary

Applicants thank the Examiner for participating in a telephonic interview on October 12, 2006. During the interview, attorney for Applicants and the Examiner discussed the teachings of the cited Watkin article and whether there would have been motivation to employ the temporary contrast agent described in the Watkin article as a permanent tissue marking agent as described in the Klein patent.

Claim Rejections

Claim 1-32 and 42-78 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,394,965 to Klein ("Klein") in view of "Multi-Modal Contrast Agents," Academic Radiology, to Watkin et al., ("Watkin"). Claims 33-41 were rejected under 35 U.S.C. 103(a) as being unpatentable over Klein in view of Watkin and in further view of the Examiner's official notice. The Examiner asserted that Klein teaches implanting a detectable tissue marker at a tissue sight, but does not teach that the contrast agent is multi-modal. The Examiner further asserted that Watkin teaches a contrast agent including microspheres that are imageable under ultrasound and MR, and that it would have been obvious to use the contrast agent described in Watkin as a tissue marker as taught by Klein. Applicants respectfully request that the Examiner withdraw these rejections because there would have been no motivation to combine these references in the manner asserted by the Examiner, and because even if combined, would not provide a permanent tissue marker as required by each independent claim.

Klein describes a tissue marking material that includes microparticles that are preferably permanently radiopaque, as opposed to contrast agents or other biodegradable imaging materials that biodegrade over a period of time. (col. 4, lines 29-36). Additionally, Klein describes that the microparticles are preferably between 100 and 1,000 microns.

Watkin describes a contrast agent imageable under both MR and ultrasound, which includes gadolinium oxide albumin microspheres (GOAM). (page S287, col. 1). However, contrary to the rejection, the GOAM contrast agent would not function as a permanent tissue marker if used in the manner described by Klein. Notably, Watkin states that a major drawback to the use of albumin microspheres is a plasma half-life that is less than one minute (page S285, col. 2). Although Watkins notes that a goal of the GOAM microspheres is to improve the imaging half-life of albumin microspheres, there is no teaching or suggestion that such GOAM microspheres could function as permanent tissue markers as taught by Klein.

Additionally, the contrast agents described above are likely formed from GOAM microspheres that are significantly smaller than the 100 micron lower range described in an embodiment of Klein. (See page S286, col. 1, noting that gadolinium particles included in MR contrast agents are generally smaller than 2 microns). As suggested by the Examples set forth in Klein, tissue marker migration is an important factor when selecting microparticle size ranges.

Accordingly, a person of ordinary skill in the art would not be motivated to utilize the GOAM contrast agent described in Watkin as a tissue marker as described by Klein because the contrast agent would not function as a permanent tissue marker. Applicants respectfully request the withdrawal of the rejections on this basis.

Moreover, even if the references were combined as asserted by the Examiner, the resulting tissue marker would not constitute a permanent tissue marker as required by each independent claim of the present application. As set forth in the present application, one substantial benefit of the claimed tissue marker is that it is both permanent and compatible with multiple imaging modalities including, for example, ultrasound, MR and/or x-ray. (See Example). However, the contrast agent described in Watkin, like many prior art contrast agents that are compatible with ultrasound, is not permanently imageable. Applicants request the withdrawal of the claim rejections at least on this basis.

CONCLUSION

All of the claims remaining in this application are in condition for allowance. If there are any remaining questions, the Examiner is encouraged to contact the undersigned at the number listed below.

Respectfully submitted,

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